UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,081	03/26/2001	Shawn R. Gettemy	PALM-3628.US.P	9783

7590 04/06/2004	EXAMINER
WAGNER, MURABITO & HAO LLP	NGUYEN, KEVIN M

ART UNIT	PAPER NUMBER
2674	

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DATE MAILED: 04/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Office Action Summary	Application No.	Applicant(s)
		09/818,081	GETTEMY ET AL.
		Examiner	Art Unit
		Kevin M. Nguyen	2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _08 March 2004_.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-29_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _1-29_ is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _03/08/2004_.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____ .

DETAILED ACTION

Request for Continued Examination

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/08/2004 has been entered. An action on the RCE follows:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 1-5, 8, 13, 15, 16, 25, 26, 28, 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Taniguchi (cited in IDS, US 4,824,212).

3.   As to claims 1, 25, Taniguchi teaches a display unit 11 (fig. 1) comprising a passive matrix of fixed pixels yd0-yd203 rows (fig. 1) and xd0-xd655 columns (fig. 1) of discrete pixels, a XD driver (fig. 1), a YD driver (fig. 1), an inherent display data memory;

a <u>fixed</u> pixel border comprises non-display regions B having a predetermined

width B1, B2, B3, B4, B5, B6 (fig. 1), the non-display regions surrounding the effective

display region A (fig. 1);

a plurality of pixels (non-display regions B1, B2, B3, B4, B5, B6, fig. 1) are

controlled between on (white state) and off state (black state) (see col. 5, lines 6-15) by

a common threshold signal of the control circuit (not shown, col. 7, lines 47).

4.   As to <u>claim 13</u>, Taniguchi teaches a display unit 11 (fig. 1) comprising a passive

matrix of pixels yd0-yd203 rows (fig. 1) and xd0-xd655 columns (fig. 1) of discrete

pixels, XD drivers (fig. 1), YD drivers (fig. 1), an inherent display data memory;

a fixed pixel border comprises non-display regions B having a predetermined

width B1, B2, B3, B4, B5, B6 (fig. 1), the non-display regions surrounding the effective

display region A (fig. 1);

a plurality of pixels (non-display regions B1, B2, B3, B4, B5, B6, fig. 1) are

controlled between on (white state) and off state (black state) (see col. 5, lines 6-15) by

a common threshold signal of the control circuit (not shown, col. 7, lines 47);

a contrast adjust circuit comprises when the display screen 11a (fig. 1) is of the

normally <u>black</u> type, the non-display region B1 (fig. 1) becomes <u>bright</u> so that the black

frame disappears, and when the display screen 11a (fig. 1) is of the normally <u>white</u> type,

the non-display region B1 (fig. 1) becomes <u>dark</u>, being distinguished as a black frame.

All the other non-display regions B2 through B6 (fig. 1) operate similarly as the non-

display region B1 (fig. 1, col. 5, lines 53-60) which are controlled by the control circuit

(not shown, col. 7, lines 47).

5.   As to claims 2, 28, Taniguchi teaches <u>a contrast adjust circuit</u> comprising when

the display screen 11a (fig. 1) is of the normally <u>black</u> type, the non-display region B1

(fig. 1) becomes <u>bright</u> so that the black frame disappears, and when the display screen

11a (fig. 1) is of the normally <u>white</u> type, the non-display region B1 (fig. 1) becomes

<u>dark</u>, being distinguished as a black frame. All the other non-display regions B2 through

B6 (fig. 1) operate similarly as the non-display region B1 (fig. 1, col. 5, lines 53-60)

which are controlled by the control circuit (not shown, col. 7, lines 47).

As to claims 3, 29, Taniguchi teaches <u>a foreground</u> comprising the desired

characters or figures displayed on the screen 11a can be seen from the front side of the

screen 11a (col. 5, lines 34-37). <u>A white background</u> comprises when the display screen

11a is of the normally <u>white type</u>, on the other hand, the non-display region B1 becomes

<u>bright</u> so that the black frame disappears (col. 5, lines 47-49).

As to claims 4, 5, 15, Taniguchi teaches a passive matrix is negative mode liquid

crystal display 11 technology (col. 3, line 60) is super twisted nematic.

As to claims 8, 16, Taniguchi teaches a driver circuit of the fixed pixel border

comprising column drivers XD1, XDn, XD9, XD2n, having output terminal xd0, xd655,

xd656, xd1312 (fig. 1), and row drivers YD1, YD2 having output terminal yd0, yd203

(fig. 1, col. 5, lines 6-15) which are controlled by a single control circuit (not shown, col.

6, line 44) for generating a common threshold signal.

As to claim 26, Taniguchi teaches the pixel border comprises non-display regions

B having a predetermined width B1, B2, B3, B4, B5, B6 (fig. 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 11, 17, 27, 12, 18, 24 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Taniguchi.

7.   As to claims 11, 17, 27, Taniguchi teaches all the subject matter claimed

limitations with the exception of particular size of "the predetermined width is two

pixels." Absent a showing of criticality it would have been within the level of skill in the

art and obvious to one having ordinary skill to engineering design the size of a well-

known element is normally not directed toward patentable subject matter as desired as

was judicially recognized in re Rose, 105 USPQ 237 (CCPA 1955) and in re Reven, 156

USPQ 679 (CCPA 1968).

8.   As to claims 12, 18 and 24, Taniguchi teaches all the subject matter claimed

limitations with the exception of particular size of "said passive matrix comprises 160

rows and 160 columns of discrete pixels." Absent a showing of criticality it would have

been within the level of skill in the art and obvious to one having ordinary skill to

engineering design the size of a well-known element is normally not directed toward

patentable subject matter as desired as was judicially recognized in re Rose, 105 USPQ

237 (CCPA 1955) and in re Reven, 156 USPQ 679 (CCPA 1968).

9.   Claims 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Taniguchi in view of Yokota et al (previously cited, US 6,181,313).

10.   As to claim 19, Taniguchi teaches a display unit 11 (fig. 1) comprising a passive

matrix of pixels yd0-yd203 rows (fig. 1) and xd0-xd655 columns (fig. 1) of discrete

pixels, XD drivers (fig. 1), YD drivers (fig. 1), an inherent display data memory;

       a fixed pixel border comprises non-display regions B having a predetermined

width B1, B2, B3, B4, B5, B6 (fig. 1), the non-display regions surrounding the effective

display region A (fig. 1);

       a plurality of pixels (non-display regions B1, B2, B3, B4, B5, B6, fig. 1) are

controlled between on (white state) and off state (black state) (see col. 5, lines 6-15) by

a common threshold signal of the control circuit (not shown, col. 7, lines 47).

       Accordingly, Taniguchi teaches all of the claimed limitations, except for a

processor, a bus, a memory unit, and a user input device.

       However, Yokota et al teach a portable electronic device (fig. 15A) comprising a

processor 3 (fig. 15A), bus (wires 51, 54, fig. 15A), a memory unit 7 (fig. 1), a user input

device 52 (figure 15A, col. 15, lines 1-14).

       Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of the invention to substitute the X and Y drivers taught by Yokota et al for the

X and Y drivers of Taniguchi because this would improve quality of the image being

displayed (col. 3, lines 41-42 of Yokota), while fabricating the display controller at low

cost (col. 3, lines 54-56 of Yokota).

As to claim 20, Taniguchi teaches <u>a contrast adjust circuit</u> comprising when the display screen 11a (fig. 1) is of the normally <u>black</u> type, the non-display region B1 (fig. 1) becomes <u>bright</u> so that the black frame disappears, and when the display screen 11a (fig. 1) is of the normally <u>white</u> type, the non-display region B1 (fig. 1) becomes <u>dark</u>, being distinguished as a black frame. All the other non-display regions B2 through B6 (fig. 1) operate similarly as the non-display region B1 (fig. 1, col. 5, lines 53-60) which are controlled by the control circuit (not shown, col. 7, lines 47).

As to claim 21, Taniguchi teaches <u>a foreground</u> comprising the desired characters or figures displayed on the screen 11a can be seen from the front side of the screen 11a (col. 5, lines 34-37). <u>A white background</u> comprises when the display screen 11a is of the normally <u>white type</u>, on the other hand, the non-display region B1 becomes <u>bright</u> so that the black frame disappears (col. 5, lines 47-49).

As to claim 22, Taniguchi teaches a passive matrix is negative mode liquid crystal display 11 technology (col. 3, line 60) is super twisted nematic.

As to claim 23, Taniguchi teaches a driver circuit of the fixed pixel border comprising column drivers XD1, XDn, XD9, XD2n, having output terminal xd0, xd655, xd656, xd1312 (fig. 1), and row drivers YD1, YD2 having output terminal yd0, yd203 (fig. 1, col. 5, lines 6-15) which are controlled by a single control circuit (not shown, col. 6, line 44) for generating a common threshold signal.

11.   <u>Claims 6, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi in view of Morimoto (previously cited, US 6,535,188).</u>

As to claim 6, Taniguchi teaches all of the claimed limitations, except for "the passive matrix is electronic ink technology.

However, Morimoto teaches a liquid crystal display device including electronic ink 12 (figure 2, column 5, lines 19-20).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the electric ink technology taught by Morimoto for Yokota et al's display device because this would reduce the thickness fluctuation of liquid crystal layer and avoid an occurrence of a portion of a display image deterioration such as a deviation of contrast ratio (column 3, lines 25-28 of Morimoto).

As to claims 9, 10, Morimoto teaches each pixel including red, green, blue subpixel sharing a common row and spanning three columns (see figure 1).

12.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi in view of Colgan et al (previously cited, US 6,323,834).

As to claim 7, Taniguchi teaches all of the claimed limitations, except for the passive matrix is microelectromechanical system technology.

However, Colgan et al teach the passive matrix display 154, deformable mirrors 133 (figure 22, column 12, lines 23-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the passive matrix display 154, deformable mirrors 133 taught by Colgan et al for Yokota et al's display device because this would provide high reflectivity and good contrast ration while reducing manufacturing costs (column 7, lines 52 and line 63 of Colgan et al).

Response to Arguments

13.   Applicant's arguments filed 03/08/2004 have been fully considered but they are

not persuasive.

In response to applicant's argument that claims 1, 13 and 19 recite "a fixed pixel

border having a predetermined width, said fixed pixel border surrounding said passive

matrix;" claim 25 recites "a fixed dimension of n rows and m columns."

This argument is not persuasive because Taniguchi teaches a display unit 11

(fig. 1) comprising a passive matrix of fixed pixels yd0-yd203 rows (fig. 1) and xd0-

xd655 columns (fig. 1) of discrete pixels, a XD driver (fig. 1), a YD driver (fig. 1), an

inherent display data memory;

a fixed pixel border comprises non-display regions B having a predetermined

width B1, B2, B3, B4, B5, B6 (fig. 1), the non-display regions surrounding the effective

display region A (fig. 1);

For these reasons, the rejections based on Taniguchi have been maintained.

Conclusion

14.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to **Kevin M. Nguyen** whose telephone number is **703-305-**

6209. The examiner can normally be reached on MON-THU from 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, **Richard A Hjerpe** can be reached on **703-305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
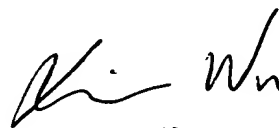
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal

Drive, Arlington, VA, Sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the Technology Center 2600 Customer Service Office

whose telephone number is (703) 306-0377.

Kevin M. Nguyen
Patent Examiner
Art Unit 2674

KN
April 1, 2004

XIAO WU
PRIMARY EXAMINER